G 27

OUR
PAST AND
FUTURE
DEPEND
ON
EACH OTHER

Best of Show
James Ferguson, 7th Grade
Kasigluk, Alaska

1989
Tengmiat Kiiki Amllerikilit

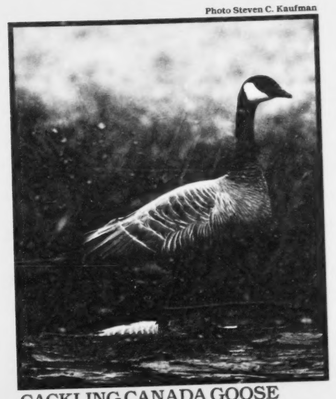
(May the geese increase as soon as possible)

By the Children of the Yukon-Kuskokwim Delta

I 49.2:

Geese of the Yukon-Kuskokwim Delta Goose Management Plan

Photo Steven C. Kaufman



CACKLING CANADA GOOSE
(Tuutangayak, Tuutaalquciq, 'Lagiq, 'Lakcakcar)

The Cackling Canada goose is one of three kinds of Canada geese on the Yukon-Kuskokwim Delta. All three look very much alike, and all have white cheek patches. The Cackling Canada goose is the smallest of the three (about the size of a large duck) and has a shorter bill. Another way to tell a cackler is by its fast, high-pitched sounding call.

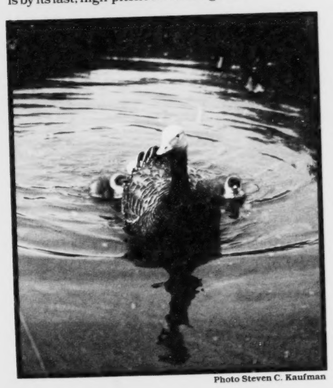


Photo Steven C. Kaufman

Photo Glenn Chambers

PACIFIC WHITE-FRONTED GOOSE
(Neqleq, 'Leqleq, 'Lagilugpiaq)

White-fronted geese have a speckled belly and a white band at the base of the bill. Like the cackling Canada goose, Pacific white-fronted winter mainly in California.

Photo Steven C. Kaufman

PACIFIC BLACK BRANT
(Neqlernaq,'Leqlernaq)

Brant are small stocky geese with black heads and necks, with white stripes on both sides of the upper necks. Black brant winter mainly in Mexico.

EMPEROR GOOSE
(Nacaullek)

Emperor geese have a white head and back of the neck. The chin and throat are black but the body is flecked with silver-gray. The face is often stained rusty colored in the summer. Emperor geese are rarely found outside of Alaska, even in winter.

Yukon-Kuskokwim Delta Goose Management Plan

HELP THE GEESE POPULATIONS GROW AGAIN!

These 4 species of geese are in danger:

Until their populations have increased...

- Do not take any emperor or cackling Canada geese at any time.
- Do not take any of these geese while they are nesting, raising their young or molting.
- Do not take any eggs of these 4 species.
- Do not use airplanes to hunt these geese.

Cackling Canada Goose

Emperor Goose

White-fronted Goose

Black Brant

Did you know?

DUCKS	GEESE & SWANS
— mate only for a single season	— mate for life
— males leave as soon as eggs are hatched	— male stays and helps care for the young
— male and female have different plumages	— male and female have same plumages
— male and female have different calls	— male and female have same calls

The Pacific Flyway

1 — **Yukon-Kuskokwim Delta**
All four species nest here.

2 — **Cook Inlet**
Stopover area for cacklers and whitefronts on northern migration.

3 — **Alaska Peninsula**
Brant use Cold Bay area, cacklers and whitefronts use Pilot Point and Cinder River area, and emperors use all the lagoons.

4 — **Aleutian Islands**
Emperors spend all winter here.

5 — **Willamette Valley (Oregon), Klamath Basin (California)**
Feeding and resting areas for cacklers and whitefronts.

6 — **Sacramento/ San Joaquin Valleys**
Cacklers and whitefronts winter here.

7 — **Mexico**
Brant spend winter here in lagoons on Baja California Peninsula, and west coast of mainland Mexico.

1st Place, Grades 1-5
Charlene Berry, 5th Grade
Bethel, Alaska

Goose Surveys

In January, the same pilot-biologist uses the same turbine beaver airplane to count brant in Mexico that he uses to count waterfowl on the Yukon Kuskokwim Delta in June. He uses an airplane to see the birds better and because the Mexican eelgrass wetlands are as difficult to get to as the Alaskan tundra wetlands. The pilot learns whether the number of brant has increased or decreased from previous years.

JANUARY 1989

IRALULL'ER

The 'bad' weather month

SUNDAY AGAYUNEQ	MONDAY PEKYUN	TUESDAY AIPIRIN	WEDNESDAY PINGAYIRIN	THURSDAY CETAMIRIN	FRIDAY TALLIMIRIN	SATURDAY MAQINEQ
1 New Year's Day	2	3 Admission Day Alaska, 1959	4	5	6	7 Slaaviq begins Christmas (Russian Orthodox)
8	9	10	11	12 Brant population counts made in Mexico, California, Oregon Washington in mid-January	13	14 New Year's Day (Russian Orthodox)
15	16 Martin Luther King, Jr.'s Birthday (observed)	17	18	19 Theophany -- Baptism of Christ (Russian Orthodox)	20	21
22	23	24	25	26	27	28
29	30	31 Most cacklers winter in Sacramento Valley, California.	Most whitefronts winter in Sacramento Valley, California.	Most brants winter in Mexico. The Spanish word for black brant is ganzo negro.	Most emperors winter in Aleutian Islands, Alaska.	

2nd Place, Grades 1-5
Olinka Ferguson, 3rd Grade
Kasigluk, Alaska

Environmental Contaminant and Disease Research

When a goose is found dead for an unknown reason, it is sent to the Fish and Wildlife Service's National Wildlife Health Laboratory in Madison, Wisconsin. There it is checked for diseases and environmental contaminants. Study efiorts have been initiated to identify what contaminants, if any, are being accumulated by Pacific white-fronted geese on the wintering grounds. Blood and liver samples have also been taken from cacklers and emperors on the Yukon Kuskokwim Delta to determine levels of heavy metals and pesticides.

FEBRUARY 1989

KANRUYAUCIQ

The month of frosting

SUNDAY AGAYUNEQ	MONDAY PEKYUN	TUESDAY AIPIRIN	WEDNESDAY PINGAYIRIN	THURSDAY CETAMIRIN	FRIDAY TALLIMIRIN	SATURDAY MAQINEQ
	Some cacklers now move south to San Joaquin Valley.		1	2	3	4
5	6	7	8 Ash Wednesday	9	10	11
12 Lincoln's Birthday	13 Whitefronts move into Sacramento/San Joaquin Delta	14 St. Valentine's Day	15	16	17	18
19	20 Washington's Birthday Observed	21	22 Cacklers start moving north to Klamath Basin.	23	24	25
26	27	28		Brant still in Mexico.	Emperors still in Aleutian Islands.	

3rd Place, Grades 1-5
Adrian Frances, 1st Grade
Pilot Station, Alaska

Aleutian Islands

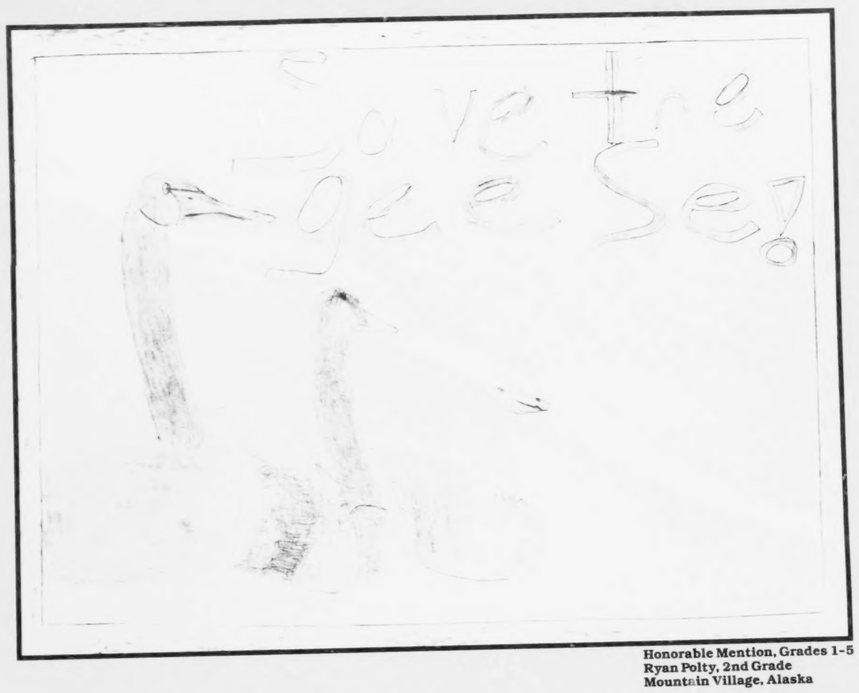
Most emperor geese never leave Alaska. They nest in western Alaska and spend the winter in the Aleutian Islands. They stay along the rocky shores and coastal beaches, feeding on eelgrass, algae, sea lettuce, clams and snails. The Aleuts call them qagmangix, or beach geese. As the tide goes out, the geese walk over the mud to feed on the exposed algae and grass.

MARCH 1989

KEPNERCIQ

The month for waiting for breakup (thaw)

SUNDAY AGAYUNEQ	MONDAY PEKYUN	TUESDAY AIPIRIN	WEDNESDAY PINGAYIRIN	THURSDAY CETAMIRIN	FRIDAY TALLIMIRIN	SATURDAY MAQINEQ
			1 Emperors start moving east to Alaska Peninsula	2	3	4 Migratory Bird Treaty with Japan, 1972
5	6	7	8	9	10	11
12	13	14	15 Migratory Bird Treaty with Mexico, 1937	16	17 St. Patrick's Day	18
19 Palm Sunday	20 Spring begins (Vernal Equinox)	21	22 Whitefronts reach peak numbers in Klamath Basin.	23	24 Good Friday	25
26 Easter	27 Seward's Day	28	29	30	31 Most brant depart Mexico for northward migration.	Cacklers slowly moving north to Klamath Basin.



Honorable Mention, Grades 1-5
Ryan Polty, 2nd Grade
Mountain Village, Alaska

Spring staging areas

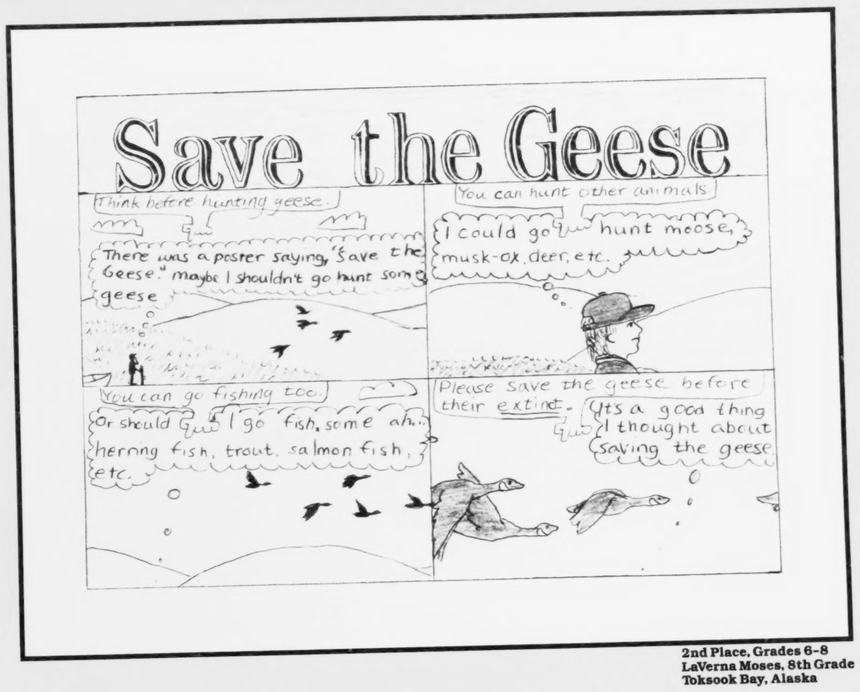
Staging areas are wetlands rich in food where very large numbers of migrating birds stop to rest and eat to build up energy reserves for the rest of their flight. Upper Cook Inlet near Anchorage is an important spring staging area for cackiers and whitefronts flying north from California to the Yukon Delta. The Susitna Flats, Palmer Hay Flats, and Trading Bay areas of Cook Inlet are protected as State Game Refuges. Redoubt Bay south of Trading Bay is being proposed as a critical habitat area, which would give it protection similar to a refuge.

APRIL 1989

TENGMIIRVIK

The month the geese arrive

SUNDAY AGAYUNEQ	MONDAY PEKYUN	TUESDAY AIPIRIN	WEDNESDAY PINGAYIRIN	THURSDAY CETAMIRIN	FRIDAY TALLIMIRIN	SATURDAY MAQINEQ
	Brant start moving north along Pacific Coast.	Emperors staging on Alaska Peninsula.				1 April Fool's Day
2 Daylight Savings Time begins.	3	4	5 Cacklers reach peak numbers in Klamath Basin.	6	7	8
9	10	11	12	13	14	15
16	17	18 Whitefronts migrating to Cook Inlet, Alaska.	19 Cacklers migrating to Cook Inlet, Alaska.	20 Passover	21 Brant start arriving at Alaska Peninsula.	22 Emperor population count done on Alaska Peninsula.
23 30 Paqskaaq Easter 30th Russian Orthodox	24	25	26 Geese start arriving on Yukon-Kuskokwim Delta.	27	28	29


Save the Geese
Think before hunting geese.
There was a poster saying, "Save the Geese." maybe I shouldn't go hunt some geese
You can go fishing too.
Or should I go fish, some ah... herring fish, trout, salmon fish, etc.
You can hunt other animals
I could go hunt moose, musk-ox, deer, etc.
Please save the geese before their extinct-
Its a good thing I thought about saving the geese

2nd Place, Grades 6-8
LaVerna Moses, 8th Grade
Toksook Bay, Alaska

Fox Predation

In the Yup'ik legend "Kaviarem Kaviriilra" (How the Fox Became Red), the mouse teases the fox about its crooked eyes and angers and distracts the fox. Then the mouse sneaks away and embarrasses the fox. This story is an example of a predator prey relationship. Researchers at Kokechik Bay are studying whether sudden declines in populations of mice may cause foxes to take more goose eggs.

JUNE 1989

KAUGUN

The month of clubbing fish

SUNDAY AGAYUNEQ	MONDAY PEKYUN	TUESDAY AIPIPIN	WEDNESDAY PINGAYIRIN	THURSDAY CETAMIRIN	FRIDAY TALLIMIRIN	SATURDAY MAQINEQ
Brant nest in large groups called colonies.	Whitefront nests are widely distributed along the Yukon Kuskokwim Delta coast.			1	2	3
4	5	6	7	8	9	10
11	12	13 Alaska Game Law passed, 1925	14	15	16	17
18 Father's Day	19 Goose eggs begin hatching.	20	21 Summer solstice	22	23	24
25	26	27	28 Goose egg hatching continues.	29 Some non-breeding brant fly to the North Slope of Alaska to molt.	30 Emperors prefer to nest on elevated sites near tidal ponds.	Cacklers breed only along the coast, lessers near inland.

3rd Place, Grades 6-8
Francis Nevak, 7th Grade
Toksook Bay, Alaska

Molting

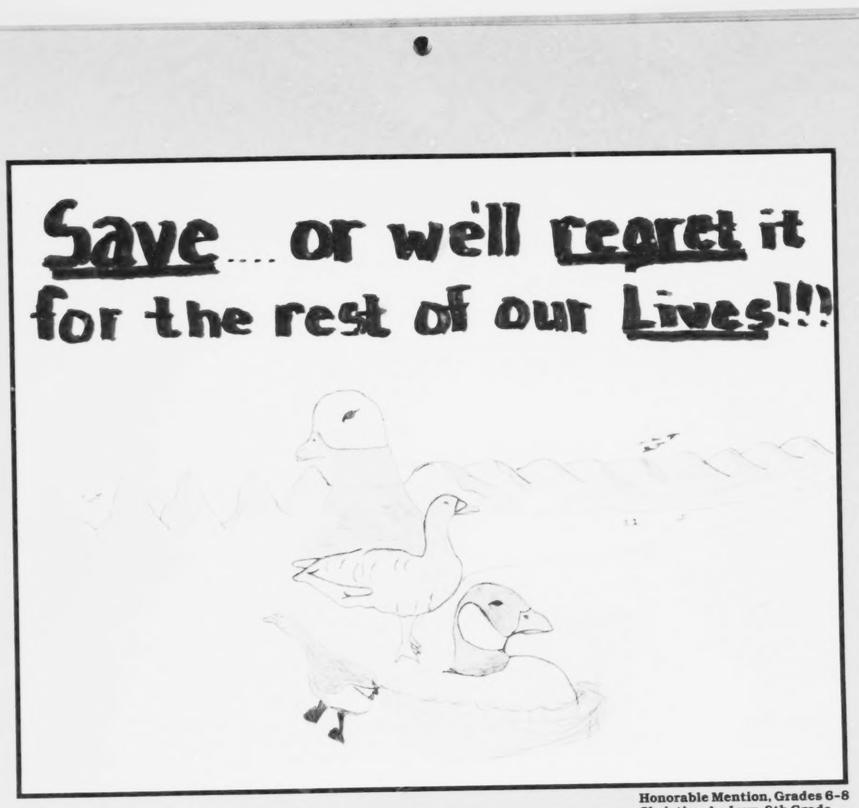
Every year, geese molt by replacing their worn out wing feathers with new ones. During this time they cannot fly so they need places such as large lakes, rivers, sloughs, and islands, that are safe from predators. The legend "Kaviaq 'Lagiq-llu" (The Fox and the Goose) illustrates this relationship. A molting goose is caught by a fox, but the fox is too foolish to eat it right away. The goose escapes by swimming across a large lake to an island.

JULY 1989

INGUN

The month of birds molting

SUNDAY AGAYUNEQ	MONDAY PEKYUN	TUESDAY AIPIRIN	WEDNESDAY PINGAYIRIN	THURSDAY CETAMIRIN	FRIDAY TALLIMIRIN	SATURDAY MAQINEQ
Cacklers are small birds and may lose many eggs to fox predators.	Whitefronts begin breeding when three years old.	Emperor eggs have a grainy texture.	Adult brant begin molting two weeks after eggs hatch.		Goose egg hatching continues.	1
2	3 Migratory Bird Treaty Act with Canada becomes law, 1918.	4 Independence Day	5	6	7 Alaska Statehood Act passed, 1958.	8
9 Egg hatching finished by now for all species.	10 Downy young usually dry in 24 hours.	11	12 Most geese move from nesting area to brood rearing areas.	13	14 Adult geese begin molting feathers and are flightless.	15
16	17	18	19	20	21 Molting continues.	22
23 30	24 31	25	26	27	28 Birds still flightless.	29



Honorable Mention, Grades 6-8
Christine Andrew, 8th Grade
Eek, Alaska

Fall staging areas

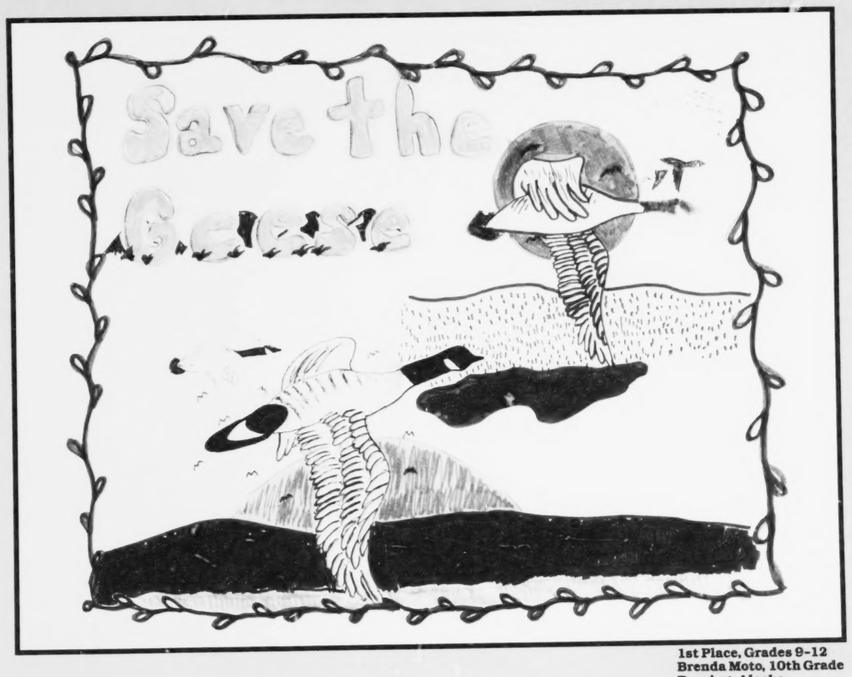
Starting in mid-August, black brant gather at Chagvan Bay, Nanvak Bay, and Nunivak Island before flying to Izembek Lagoon on the Alaska Peninsula. Near the end of August, cacklers begin flying to Pilot Point on the Alaska Peninsula, where they spend several days getting fatter before continuing their flight south. Whitefronts gather in big flocks along the Yukon River and in coastal wetlands to fatten on up on berries and other plants before flying nonstop to California.

AUGUST 1989

TENGUN

The month of flight (geese)

SUNDAY AGAYUNEQ	MONDAY PEKYUN	TUESDAY AIPIRIN	WEDNESDAY PINGAYIRIN	THURSDAY CETAMIRIN	FRIDAY TALLIMIRIN	SATURDAY MAQINEQ
Brant band together in large flocks during molting.	Molt stage continues.	1	2	3	4 Birds still flightless during molt.	5
6	7	8	9 Adult and young geese able to fly.	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24 Emperors begin to move to Alaska Peninsula.	25 Brant start moving to Alaska Peninsula.	26 Whitefronts begin to fly to Klamath Basin.
27	28	29	30	31 Young whitefronts require 55-65 days to reach flight stage.	Young cacklers can fly in 40-45 days after hatching.	Some non-breeding adult emperors summer on St. Lawrence Island.



1st Place, Grades 9-12
Brenda Moto, 10th Grade
Deering, Alaska

Izembek Lagoon

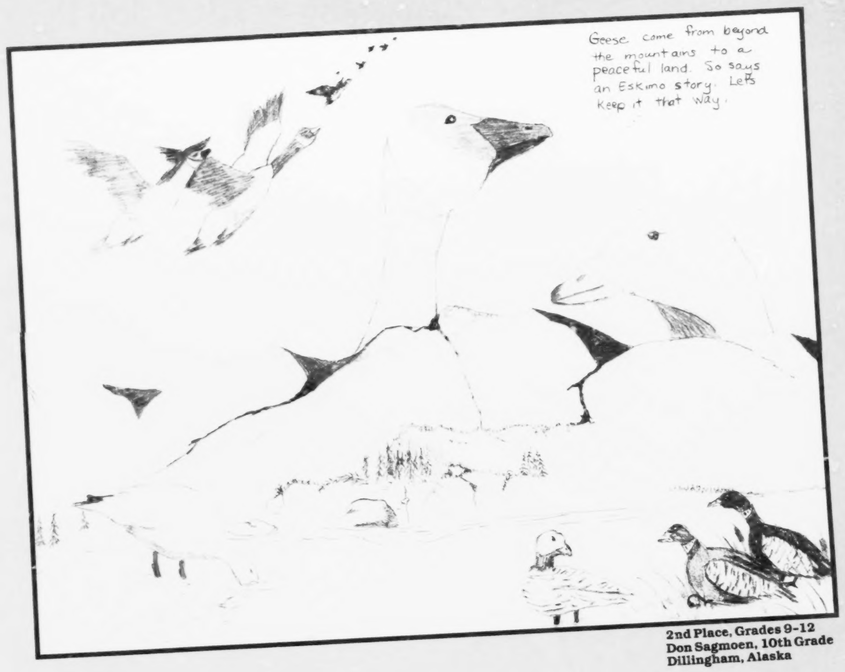
In September, about 140,000 black brant and thousands of emperors feed at Izembek Lagoon. Izembek Lagoon contains the world's largest eelgrass beds. Brant feed on eelgrass. Emperor geese eat eelgrass, and sometimes other sea grasses, small clams, and berries up on the tundra. In late October or early November, brant make a 55-hour nonstop flight from Izembek to Mexico, while emperors move southwest to the Aleutians.

SEPTEMBER 1989

AMIRAIRVIK

The month reindeer shed antler skins

SUNDAY AGAYUNEQ	MONDAY PEKYUN	TUESDAY AIPIRIN	WEDNESDAY PINGAYIRIN	THURSDAY CETAMIRIN	FRIDAY TALLIMIRIN	SATURDAY MAQINEQ
	Whitefronts migrating to Klamath Basin.	Emperors migrating along Alaska Peninsula to Aleutian Islands.			1	2
3	4 Labor Day	5	6	7	8	9
10	11	12	13	14 Cacklers staging on Alaska Peninsula.	15	16
17	18	19	20	21	22 Fall begins. Autumnal Equinox.	23
24	25	26	27	28	29	30 Brant staging at Cold Bay, Alaska. Rosh Hashanah.



2nd Place, Grades 9-12
Don Sagmoen, 10th Grade
Dillingham, Alaska

Pacific Flyway Wetlands

Wetlands are lands rich in food because decaying vegetation contributes nutrients to the water which tiny plants and animals use. These are then eaten by fish, birds, and mammals. Geese depend at different times of year on Pacific Flyway wetlands from Alaska to Mexico. The Yup'ik subsistence culture also depends on wetlands. Well over 75 percent of subsistence food is hunted, gathered or fished in wet places. The Yup'ik people and the geese both need Pacific Flyway wetlands to survive.

OCTOBER 1989

QAARIITAARVIK

The month for Halloween (Spirits)

SUNDAY AGAYUNEQ	MONDAY PEKYUN	TUESDAY AIPIRIN	WEDNESDAY PINGAYIRIN	THURSDAY CETAMIRIN	FRIDAY TALLIMIRIN	SATURDAY MAQINEQ
1	2 Whitefronts moving into California.	3	4 Emperors staging on Alaska Peninsula.	5	6	7
8	9 Yom Kippur Columbus Day Observed	10 Brant population count done at Izembek National Wildlife Refuge.	11	12	13	14 Cackler population counts done at Pilot Point and Cinder River on the Alaska Peninsula
15	16	17	18 Alaska Day	19	20	21 Cacklers migrate to Klamath Basin.
22	23	24 United Nations Day	25 Emperors begin migration to Aleutian Islands.	26	27	28
29 Daylight Savings Time Ends	30	31 Halloween	Brant leave Alaska Peninsula for Washington, Oregon, California and Mexico.			

3rd Place, Grades 9-12
Angela Charles, 12th Grade
Newtok, Alaska

California

In California's Central Valley, 95% of the traditional wetlands habitat has been lost due to development. While the geese have learned to use grain crops on farms for food, they still need wetlands. From 1978 to 1987, Federal and state agencies and conservation groups bought and protected almost as many wetlands as were lost. These groups are now making plans to protect the remaining wetlands and to create 120,000 acres of new wetlands.

NOVEMBER 1989

CAUYARVIK

The month for drumming (dances)

SUNDAY AGAYUNEQ	MONDAY PEKYUN	TUESDAY AIPIRIN	WEDNESDAY PINGAYIRIN	THURSDAY CETAMIRIN	FRIDAY TALLIMIRIN	SATURDAY MAQINEQ
			1	2	3 Cackler population counts done in Klamath Basin.	4
5	6	7 Vote ✓ Election Day	8	9	10	11 Veteran's Day
12	13	14	15 Cacklers move into Sacramento Valley.	16	17	18
19 Migratory Bird Treaty with Russia signed 1976.	20	21	22	23 Thanksgiving	24	25
26	27	28	29	30 Whitefront population counts done in California.	Brant migrating to Washington, Oregon, California and Mexico.	Most emperors wintering in Aleutian Islands.

Honorable Mention, Grades 9–12
Tessie Chanar, 9th Grade
Toksook Bay, Alaska

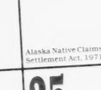
How Goose Populations Decline

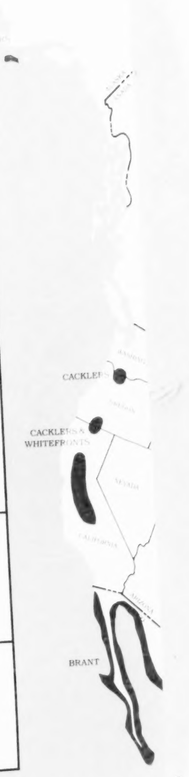
If more geese die in a year than are born, populations will decline. If 500 geese are in an area and hunters and predators take 100, most of the geese are still left to breed and make nests. But if only 200 geese are in the area and hunters and predators still take 100 geese, it will take much longer for the geese that are left to replace the geese that have died. This is why hunters and predators taking geese and eggs may do more damage when goose populations are already low.

DECEMBER 1989

UIV'IK

The month to repeat the cycle (of months)

SUNDAY AGAYUNEQ	MONDAY PEKYUN	TUESDAY AIPIRIN	WEDNESDAY PINGAYIRIN	THURSDAY CETAMIRIN	FRIDAY TALLIMIRIN	SATURDAY MAQINEQ
Most cacklers in Sacramento Valley, California	 Most whitefronts in Sacramento Valley, California	Most brant in Mexico	Most emperors in Aleutian Islands		1	2 Alaska National Interest Lands Conservation Act, 1980
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18 Alaska Native Claims Settlement Act, 1971	19	20	21 Winter Solstice	22	23 Chanukah
24 31	25 Christmas	26	27	28	29	30



Alaska Department of Fish and Game
P.O. Box 90
Bethel, Alaska 99559
(907) 543-2979

National Audubon Society
Alaska Regional Office
308 G Street, Suite 219
Anchorage, Alaska 99501

Yukon Delta National Wildlife Refuge
P.O. Box 346
Bethel, Alaska 99559
(907) 543-3151